SYNKOTE SECURITY SYSTEM
10/23/89

LIGHT STATUS		INTERPRETATION
GREEN	RED	
Steady On	Off	System Armed
Steady On	Steady On	System Armed
Off	Off	System Inoperable
Off	Blinking	Alarm has been tripped
Steady On	Blinking	System has re-armed itself

OTHER FEATURES

- System can only be armed and disarmed with the remote unit
- Siren can be set to any length of time (timer set to function "E")
- Battery should keep system armed during power failure
- System re-arms automatically after ~ 7 mins.
- System will not reset if pathway blocked

Transmitter

1 (+) 2 (−) } Power

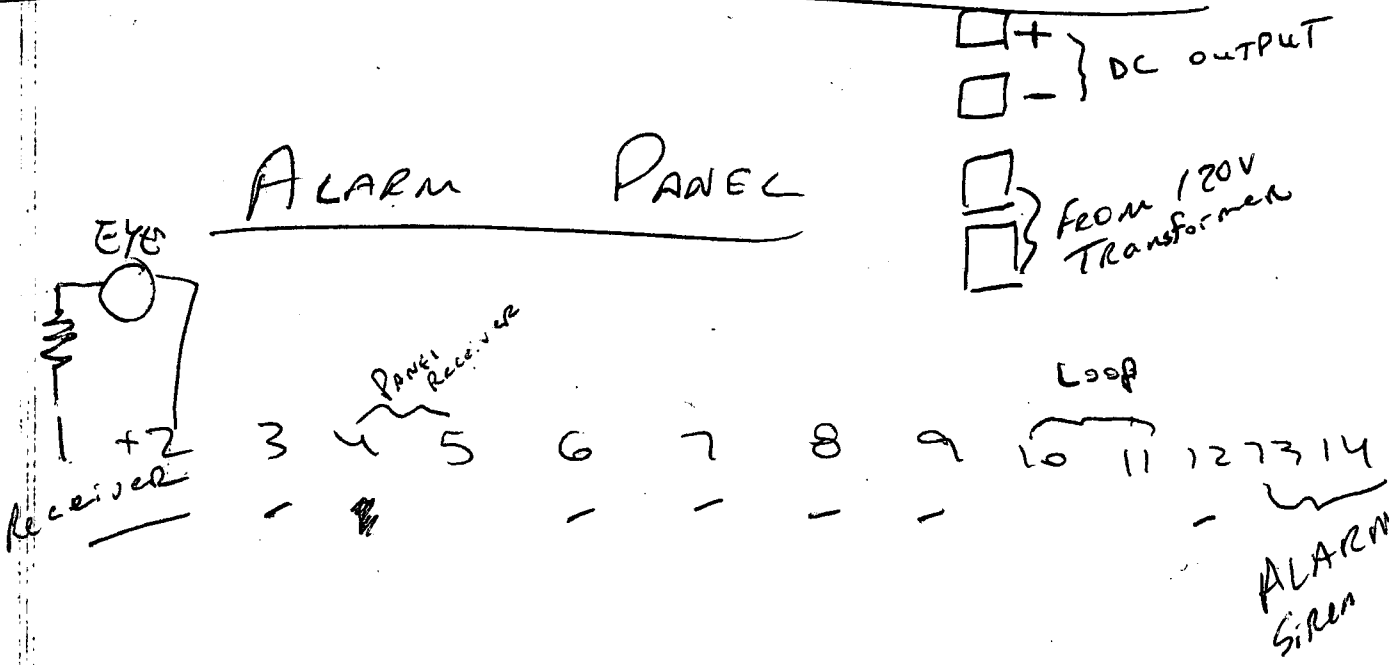
3, 4 } Nothing

Receiver

1 (+) 2 (−) } Power

3 (1), 4 (2) } Alarm Panel

Alarm Panel



Red light is armed
Green light is ready

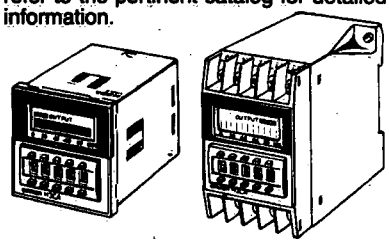
OMRON

Model H3CA SOLID-STATE TIMER

INSTRUCTION MANUAL

Model H3CA SOLID-STATE TIMER

This manual primarily describes precautions required in installing and wiring the timer. When using the timer, please refer to the pertinent catalog for detailed information.



OMRON MANUFACTURING OF AMERICA, INC.
PRINTED IN U.S.A. 0648456-0A

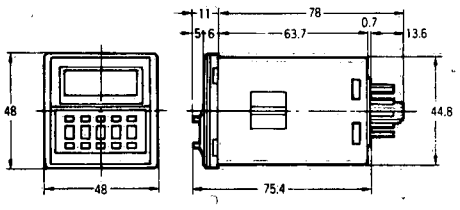
AVAILABLE TYPES

Operation/resetting system		Time-limit operation/self-resetting/external resetting*		Time-limit operation/self-resetting	Time-limit operation/self-resetting
Operation mode		8 operation modes (selectable)**		ON-delay operation	ON-delay operation
Terminal form		11-pin round socket	Front screw	8-pin round socket	8-pin round socket
Time-limit contact		SPDT		DPDT	SPDT
Instantaneous contact		–		–	SPDT
Equipped with control output ON/OFF and remaining time indicators	Surface mounting	H3CA-A (with P2CF-11 socket)	H3CA-FA	H3CA-8 (with P2CF-08 socket)	H3CA-8H (with P2CF-08 socket)
	Track mounting				
	Flush mounting	H3CA-A (with Y92F-30 adapter)	–	H3CA-8 (with Y92F-30 adapter)	H3CA-8H (with Y92F-30 adapter)

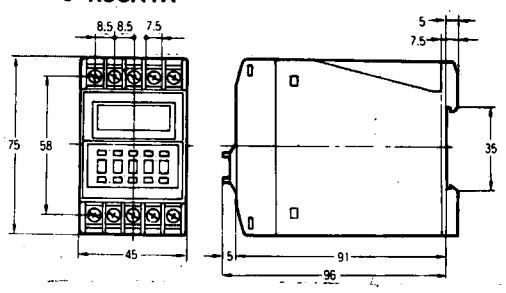
NOTES:
1. *The operation/resetting system depends on the selected operation mode. For details, see "TIMING CHARTS (OPERATION MODES)."
2. **The 8 operation modes are as
   A: ON-delay operation
   B: Flicker operation
   C: Signal ON-/OFF-delay operation (I)
   D: Signal OFF-delay operation (I)
   E: Interval operation
   F: One-shot and flicker operation
   G: Signal ON-/OFF-delay operation (II)
   H: Signal OFF-delay operation (II)

DIMENSIONS

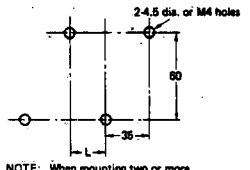
● H3CA-A/H3CA-8(-8H)



● H3CA-FA



● Mounting holes

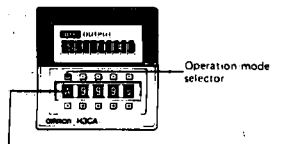


NOTE: When mounting two or more timers in line, dimension L between the two juxtaposed timers should be 10mm min.

HINTS ON CORRECT USE

● HOW TO CHANGE OPERATION MODE

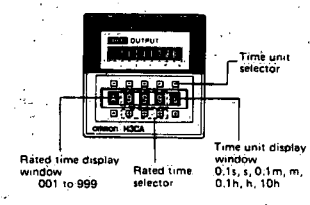
Operate the pushbuttons of the thumbwheel switch, located at the leftmost position on the front panel, to set the operation mode. Eight operation modes (A, B, C, D, E, F, G, and H) are selectable and the selected operation mode is displayed in the operation mode display window.



NOTE The operation mode is fixed to "A" in type H3CA-8, H3CA-8H.

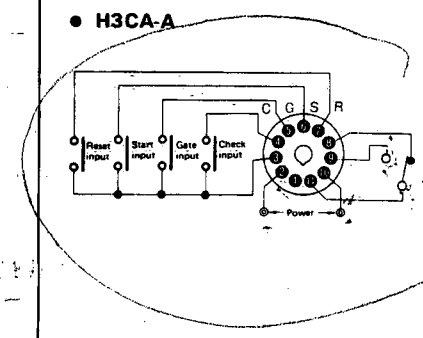
● HOW TO CHANGE TIME UNIT AND RATED TIME

Operate the pushbuttons of the rightmost thumbwheel switch to select the desired time unit. Seven time units (0.1s, s, 0.1m, m, 0.1h, h, or 10h) are selectable and the selected time unit is displayed in the time unit display window.
The desired rated time is specified by operating the 3 thumbwheel switches in the middle of the front panel. The range of a rated time is 001 to 999 for each time unit.

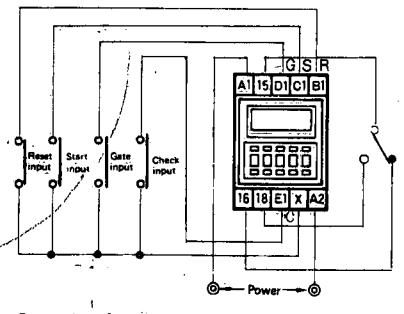


CONNECTIONS

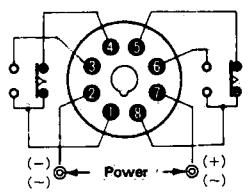
● H3CA-A



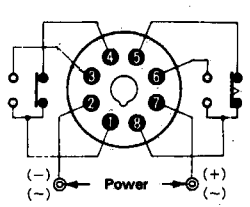
● H3CA-FA



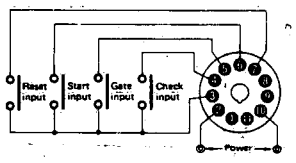
● H3CA-8



● H3CA-8H

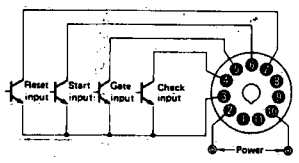


● **Connection of contact signal inputs**
Connect the start input contact between terminals ③ and ⑥, the reset input contact between terminals ⑤ and ⑦, the gate input contact between terminals ① and ⑤, and the check input contact between terminals ③ and ④, respectively.



For each signal input contact, use a gold-plated contact of high contact reliability. Be sure that these input signals satisfy the following requirements: a resistance of 1kΩ max. and a residual voltage of 1V max. when the contact makes.

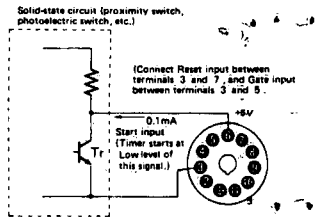
● **Connection of solid-state signal inputs**
Connect the start input transistor between terminals ③ and ⑥, the reset input transistor between terminals ③ and ⑦, the gate input transistor between terminals ③ and ⑤, and the check input transistor between terminals ③ and ④, respectively.



For signal input, use a transistor of open collector type with characteristics: V_{CEO} =20V min., $V_{CE(S)}$ =1V max., I_C=50mA min. and I_{CEO} =0.5μA max. In addition, be sure that these input signals satisfy the following requirements: a resistance of 1KΩ max. when the transister is ON, residual voltage of 1V max. when the transistor is ON, and a resistance of 200kΩ min. when the transistor is OFF.

From a solid-state circuit (proximity switch, photoelectric switch, or the like) with the rated power supply voltage ranging from 6 to 30 VDC, input signals can also be applied by other than the open collector type transistor as shown in the following diagram.

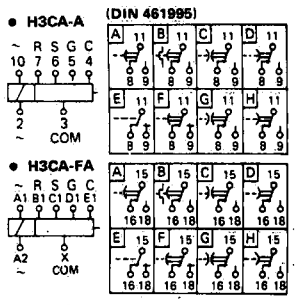
The input signal from the solid-state circuit is applied when output transistor Tr turns ON. In terms of signal voltage, the signal is input when it goes from high level to low level. Again, the residual voltage should be 1V max. when the transistor is ON. As the current output from the timer to Tr is approximately 0.1mA, this connection is possible provided the residual voltage is kept to the 1V maximum.



NOTE:
Excepting the wirings for power supply circuit, avoid the laying of input signal wires in parallel or in the same conduit with high-tension or power lines. It is recommended to use shielded wires or wiring with independent metal conduits for the shortest possible distance.

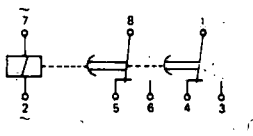
DIN MARKING

● H3CA-A (DIN 46199-5)

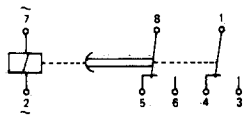


● H3CA-FA

● H3CA-8



● H3CA-8H



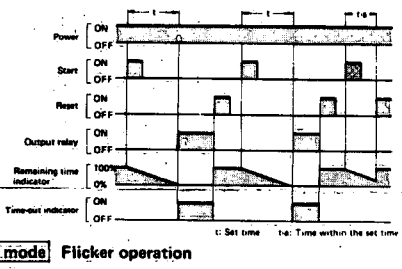
TIMING CHARTS (OPERATION MODES)

● H3CA-A(FA)

NOTES : 1. The minimum signal input time is 0.05 sec.
2. The minimum resetting time is 0.5 sec in type H3CA-A, H3CA-FA.
3. The minimum resetting time is 0.1 sec in type H3CA-8, H3CA-8H.

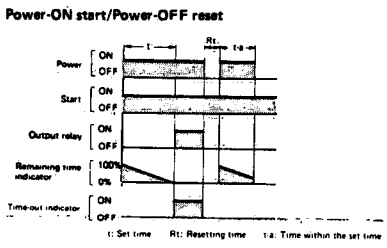
A mode ON-delay operation

● Signal start



t: Set time t-a: Time within the set time

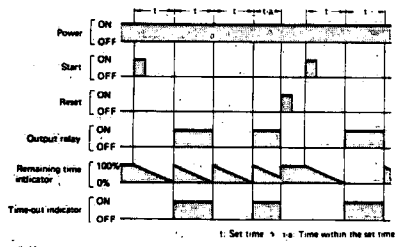
● Power-ON start/Power-OFF reset



t: Set time Rt: Resetting time t-a: Time within the set time

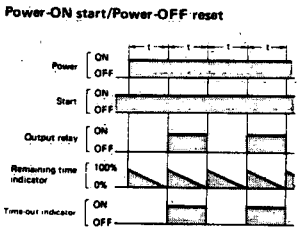
B mode Flicker operation

● Signal start



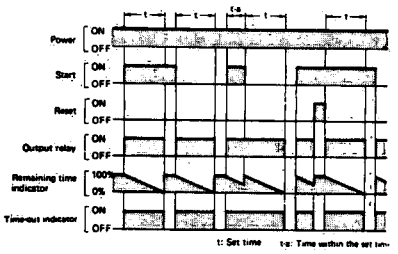
t: Set time t-a: Time within the set time

● Power-ON start/Power-OFF reset



t: Set time

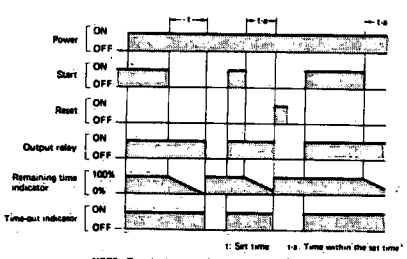
C mode Signal ON-/OFF-delay operation (Type I)



t: Set time t-a: Time within the set time

NOTE: Type I refers to the version in which the output relay operates when Start signal is ON.

D mode Signal OFF-delay operation (Type I)

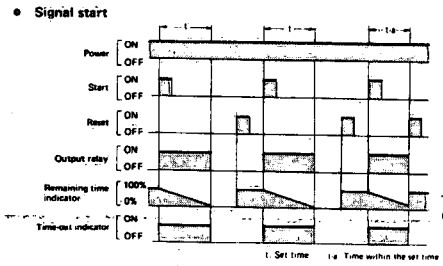


t: Set time t-a: Time within the set time

NOTE: Type I refers to the version in which the output relay operates when Start signal is ON.

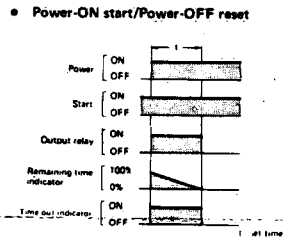
E mode Interval operation

● Signal start



t: Set time t-a: Time within the set time

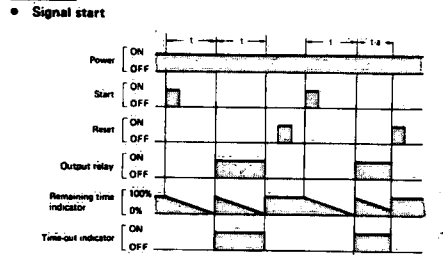
● Power-ON start/Power-OFF reset



t: Set time

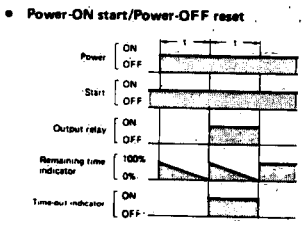
F mode One-shot and flicker operation

● Signal start



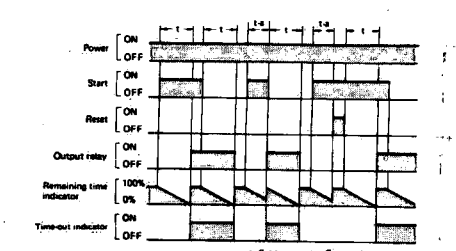
t: Set time t-a: Time within the set time

● Power-ON start/Power-OFF reset



t: Set time t-a: Time within the set time

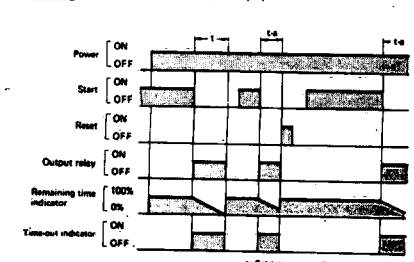
G mode Signal ON-/OFF-delay operation (Type II)



t: Set time t-a: Time within the set time

NOTE: Type II refers to the version in which the output relay does not operate when Start signal is ON.

H mode Signal OFF-delay operation



t: Set time t-a: Time within the set time

NOTE: Type II refers to the version in which the output relay does not operate when Start signal is ON.